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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/462,127	12/29/1999	NOBUHIKO NAKA	9683/58	4707

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BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, IL 60610

EXAMINER
HAN, QI

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 05/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/462,127	Applicant(s) NAKA, NOBUHIKO	
	Examiner Qi Han	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1 The references listed in the Information Disclosure Statement submitted on 05/05/2000 have been considered by the examiner (see attached PTO-1449).

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The disclosure is objected to because of the following informalities: "codebook detector 18 in Fig.1" page5, line17 has no proper reference in Fig.1 for number 18.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mano et al. (JP 06-012095, and with English Translation hereinafter abbreviated as ET) hereinafter referenced as Mano, in view of Chennakeshu (USPN 5,283,811).

Regarding **claim 1**, Mano discloses a speech decoding method to improve and construct speech from linear prediction coding based decoder, such as CELP, VSELP, as exhibited in

Fig.1. Mano also discloses a CELP format decoder (33), ET page 5, line 7, which generates excited signals from coded speech signals inputted in unit frames and generates decoded speech from the excited signals, which is read on the claimed "speech decoder which generates excited signals from coded speech signals inputted in units of frames and generates decoded speech from the exited signals". Mano's CELP format decoder includes: a post-filter (13), ET page 2, line 36, for performing formant emphasis and pitch emphasis on the excited signals, which reads on the claimed "emphasis processing means"; a buffer (34) in Fig.2 and Fig.3, ET page 5, line 10, for holding code error detection information, which reads on the claimed "error detecting means"; flag group (S2, S1, S0) for counting the number of consecutive error frames (ET page5, line 9-33), which reads on the claimed "counting means for counting a number of times said frame errors occurred in succession and outputting the successive error frame number". But, Mano fails to specifically disclose the "emphasis process prohibiting means". However, the examiner contends that the concept of having an emphasis process prohibiting means was well known, as taught by Chennakeshu.

In the same field of endeavor, Chennakeshu discloses decision feedback equalization for digital cellular radio. Chennakeshu's invention includes an equalizer Fig. 3 (40), which has same function as the claimed "emphasis processing means"; a switch (40a) that can disable/enable the equalizer by turning on/off a bypass line controlled by channel error state information, column 12, line 48-53, which has the same function and purpose as the claimed "emphasis processing prohibiting means".

Therefore, it would have been obvious to one of ordinary skill in the art at time the

invention was made to modify Mano by specifically providing for the emphasis process means with a switch and a bypass line, as taught by Chennakeshu, for the purpose of offering a prohibiting alternative choice.

Regarding **claim 7**, it discloses a method, which corresponds to the apparatus of claim 1. The method is inherent in that it simply provides functionality for the structure found in claim 1.

5. Claims 2-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mano in view of Ota et al. (JP 02-256308 and with ET) hereinafter referenced as Ota.

Regarding **claim 2**, Mano discloses a speech decoding method to improve and construct speech from linear prediction coding based decoder, such as CELP, VSELP, as exhibited in Fig.1. Mano also discloses a CELP format decoder (33), ET page 5, line 7, which generates excited signals from coded speech signals inputted in unit frames and generates decoded speech from the excited signals, which is read on the claimed "speech decoder which generates excited signals from coded speech signals inputted in units of frames and generates decoded speech from the exited signals. Mano's CELP format decoder includes: a post-filter (13), ET page 2, line 36, for performing formant emphasis and pitch emphasis on the excited signals, which reads on the claimed "emphasis processing means"; a buffer (34) in Fig.2 and Fig.3, ET page 5, line 10, or holding code error detection information, which reads on the claimed "error detecting means"; flag group (S2, S1, S0) for counting the number of consecutive error frames (ET page5, line 9-33), which reads on the claimed "counting means for counting a number of times said frame errors occurred in succession and outputting the successive error frame number". But, Mano fails to specifically disclose the amount controllable post-filter controlled by an "emphasis

amount control means". However, examiner contends that the concept of having controllable post-filter by control means was well known, as taught by Ota.

In the same field of endeavor, Ota discloses an adaptive post-filter control method with an amount controllable adaptive post-filter (4), as exhibited in Fig 2., ET page 1, line 21-25. Moreover, the amount of output of the adaptive post-filter can be controlled by both the error detecting decoder (32) and the channel state monitoring portion (33) according to the channel error levels, which reads on the claimed "emphasis amount control means" for "controlling the amount of emphasis of said emphasis process".

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Mano by specifically providing an amount controllable adaptive post-filter and an amount control means, as taught by Ota, for purpose of reducing the influence of channel errors.

Regarding **claim 3**, Mano and Ota disclose everything claimed, as applied above (see claim 2). Mano fails to specifically disclose a selectable emphasis processing means that comprise a plurality of emphasis processing portions with different emphasis amounts. However, the examiner contends that the concept of having an amounts selectable means on a plurality of post-filter was well known, as taught by Ota.

Ota further discloses that the post-filter has two portions of coefficient devices (42), (43) in Fig 2., ET page 6, line 32-34, inside the post-filter. Also, there is another portion of coefficient generator (341) outside the post-filter. So, Ota is capable of handling plurality emphasis processes. In addition, the switch (SW) in Ota's invention can be used for selecting

different combinations of those portions to get different amounts according to output of the error detecting decoder (32) and/or the channel state monitoring portion (33).

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Mano by specifically providing plurality of amounts of adaptive post-filter and a switch, as taught by Ota, for purpose of selecting different amounts of the post-filer to further reduce the influence of channel errors.

Regarding **claim 4**, Mano and Ota disclose everything claimed, as applied above (see claim 3). Mano fails to specifically disclose an alternative bypass selection for the adaptive post-filter. However, examiner contends that the concept of having a bypass selection for the post-filter was well known, as taught by Ota.

Ota's invention includes a bypass means onto a plurality of amounts of adaptive post-filter through a switch (SW) and a coefficient generator (341) with pre-set value of zero, ET page 7, line 8-13.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Mano by specifically providing an additional bypass selection for plurality of amounts of adaptive post-filter, as taught by Ota, for purpose of selecting one more alternative amounts for flexibly reducing the influence of channel errors.

Regarding **claim 5**, Mano and Ota disclose everything claimed, as applied above (see claim 3). Mano and Ota did not directly say that the post-filter could reduce the amount of the post-filter. However, the examiner contends that the concept of reducing the amount of post-filter was well known, as taught by Ota. Ota recites "the formants are emphasized by using weighting coefficients" and "the weighting coefficient is made such as to weaken the emphasis

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of formants", ET page 7, line 3-6, which provides support for reducing the emphasis amount for the post-filter by using weighing coefficients.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Mano by specifically providing emphasis amount reducible post-filter, as taught by Ota, for purpose of increasing flexibility of reducing the influence of channel errors.

Regarding **claim 8**, it discloses a method, which corresponds to the apparatus of claim.2. The method is inherent in that it simply provides functionality for the structure found in claim 2.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mano in view of Ota further in view of well known prior art (MPEP 2144.03).

Regarding **claim 6**, Mano and Ota disclose everything claimed, as applied above (see claim 3). Mano and Ota did not directly say that the post-filter could control amount of gain. However, examiner takes official notice of the fact that it was well known in the art to control the gain for filters.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Mano and Ota by specifically providing a gain controllable filter for purpose of further increasing flexibility of reducing the influence of channel errors.

Conclusion

7. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

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or faxed to:

(703)-872-9314

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington. VA. Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (703) 305-5631. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. and Friday from 8:00 a.m. to 12:00 a.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (703) 305-4379.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

QH/qh
April 29, 2002

Marsha Banks-Harold

MARSHA D. BANKS-HAROLD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600